REMARKS/ARGUMENTS

The Pending Claims

Claims 36, 37, 41, and 44-70 are currently pending. Reconsideration of the pending claims is respectfully requested.

Discussion of the Claim Amendments

Claims 1-35, 38, 39, 42, and 43 have been canceled.

Claim 36 has been amended to recite that the polishing system comprises a reducing agent that is ascorbic acid. Claim 37 has been amended to recite that the polishing system comprises a specified amount of ascorbic acid. New claims 44-70 have been added to recite further embodiments of the method recited in claim 36. Support for these new claims can be found in the present specification at, for example, paragraphs [0015], [0016], [0018], [0026], [0028], [0029], [0030], and [0033].

No new matter has been added by way of these amendments.

Discussion of the Obviousness Rejections

Claims 1-3, 6-9, 13-19, 21, 32-37, 39, 40, 41, and 43 stand rejected as allegedly obvious over U.S. Patent 6,139,763 (Ina et al.) (hereinafter "the Ina '763 patent") in view of U.S. Patent Application Publication 2002/0086511 A1 (Hartner et al.) (hereinafter "the Hartner '511 publication"), U.S. Patent 4,294, 608 (Sedlak et al.) (hereinafter "the Sedlak '608 publication"), and U.S. Patent Application Publication 2003/0107465 A1 (Hiraoka et al.) (hereinafter "the Hiraoka '465 publication").

The Office Action alleges that the Ina '763 patent discloses a method of polishing a substrate comprising a metal in an oxidized form (i.e., tantalum oxide) with a polishing system comprising a polishing pad and a polishing composition comprising abrasive particles and a reducing agent. The Office Action asserts that the Ina '763 patent discloses that the reducing agent may be formic acid or formaldehyde, but acknowledges that the Ina '763 patent fails to teach or suggest that the metal in oxidized form may be a noble metal selected from the group consisting of platinum, iridium, ruthenium, rhodium, palladium, silver, gold,

and combinations thereof. The Office Action relies on the Hartner '511 publication for its disclosure of a method for fabricating a patterned layer on a substrate that comprises a step of chemical-mechanical polishing of a layer of iridium oxide, despite the fact that the Hartner '511 publication is completely silent as to the specifics of the polishing step. The Office Action further relies on the Sedlak '608 publication and the Hiraoka '465 publication for their disclosures of various compounds as reducing agents.

The pending claims, as amended, recite a method of polishing a substrate comprising a metal in an oxidized form, which method comprises a step of contacting a portion of the substrate with a chemical-mechanical polishing system comprising about 0.1 to about 1 wt.% of a reducing agent, wherein the reducing agent is ascorbic acid. As is well settled, in order to establish *prima facie* obviousness, the reference (or references when combined) must teach or suggest all of the claim limitations. In the present case, the combination of the Ina '763 patent, the Hartner '511 publication, the Sedlak '608 publication, and the Hiraoka '465 publication fails to teach or suggest a method of polishing a metal in an oxidized form with a polishing composition comprising ascorbic acid, as recited in the pending claims. Since the combination of references fails to teach or reasonably suggest all of the claim limitations, the Office Action has failed to establish a *prima facie* case of obviousness.

Moreover, Applicants have discovered unexpected results in a method of polishing a metal in an oxidized form, wherein the metal is a noble metal selected from the group recited in the pending claims, with a polishing composition comprising a reducing agent that is ascorbic acid. As is apparent from the reported experimental data set forth in Table 1 of the present specification, a polishing composition comprising about 3 wt.% of an alumina abrasive (comprising a mixture of about 60% α-alumina and about 40% fumed alumina) at a pH of about 3 and further comprising about 1 wt.% of ascorbic acid as a reducing agent exhibited a removal rate for iridium oxide that was approximately 18 times greater than that observed for a control polishing composition not comprising any additional components, and approximately 1.8 and 2.4 times greater than that observed for polishing composition further comprising hypophosphorous acid and formic acid as reducing agents, respectively, as opposed to ascorbic acid. Thus, the results set forth in Example 1 demonstrate, in the context of the invention, the unexpected properties of a polishing composition containing ascorbic

acid as a reducing agent as compared to similar polishing compositions containing other reducing agents or no reducing agent.

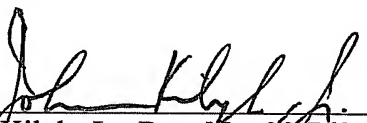
In view of the foregoing, the subject matter of the pending claims must be considered unobvious in view of the combination of the Ina '763 patent, the Hartner '511 publication, the Sedlak '608 publication, and the Hiraoka '465 publication. The obviousness rejection is improper and should be withdrawn.

Claims 38 and 42 stand rejected as allegedly obvious over U.S. Patent Application Publication 2002/0090820 A1 (Sun et al.) in view of U.S. Patent Application Publication 2005/0006339 A1 (Mardilovich et el.). Claims 38 and 42 have been canceled. Accordingly, the obviousness rejection of claims 38 and 42 is moot and should be withdrawn.

Conclusion

Applicants respectfully submit that the patent application is in condition for allowance. If, in the opinion of the Examiner, a telephone conference would expedite the prosecution of the subject application, the Examiner is invited to call the undersigned attorney.

Respectfully submitted,



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